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PART V-O

NAVAL UNDERSEA RESEARCH AND DEVELOPMENT CENTER, SAN CLEMENTE ISLAND FACILITY

The San Clemente Island (SCI) Facility of the Naval Undersea Research and Development Center, San Diego (NAVUSEARANDCEN SDIEGO) is located approximately 56 air miles south of Long Beach and 83 miles northwest of San Diego, California. San Diego, Los Angeles, and the Point Mugu Pacific Missile Range are within 30 minutes flying time. The Island was acquired by the United States from Mexico in 1848 under the Treaty of Guadalupe Hidalgo. It remained the property of the United States when California was admitted to the Union. By Executive Orders of 11 September 1854 and 26 January 1867, the Island was reserved for lighthouse purposes, and on 7 November 1934 control and jurisdiction was transferred from the Department of Commerce to the Department of the Navy.

Until 1935 the principal activity on SCI was sheep ranching. Since then the general use has been as a site for airfields, remote radar facilities, aerial bombing, gunnery practice, ship-to-shore bombardment, and more recently as a major site for testing weapons. During this period SCI was under the administration of various commands. At the present time all of the Island except the Auxiliary Landing Field is administered by NAVUSEARANDCEN SDIEGO. The Auxiliary Landing Field is under the command of the Naval Air Station, North Island (NAS NORIS).

I. MISSION AND TASKS

A. MISSION. The San Clemente Island Facility supports the research, development, test, and evaluation (RDT&E) programs of NAVUSEARANDCEN and such other RDT&E programs as may be assigned, and supports fleet training and operational requirements consistent with the foregoing.

B. TASKS

1. Provide ranges, facilities, and personnel support for RDT&E programs requiring a remote site or ocean environment.

2. Provide underwater test and instrumentation facilities and personnel support for programs where the environment of San Clemente Island is necessary to achieve program objectives.

3. Coordinate facilities maintenance, logistic, and support services required for NAVUSEARANDCEN projects, tenant activities, and user fleet units.

II. COMMAND RELATIONSHIP

A. CHIEF OF NAVAL OPERATIONS

B. CHIEF OF NAVAL MATERIAL

C. COMMANDER, NAVAL UNDERSEA RESEARCH AND DEVELOPMENT CENTER, SAN DIEGO

D. OFFICER IN CHARGE, NAVAL UNDERSEA RESEARCH AND DEVELOPMENT CENTER, SAN CLEMENTE ISLAND FACILITY

III. TENANTS

A. MILITARY

1. Naval Air Station, North Island
2. Fleet Composite Squadron THREE (VC-3)
3. Fleet Airborne Electronics Training Unit, Pacific
4. Fleet Air Control and Surveillance Facility
5. Amphibious Training Command, Pacific Fleet
6. Naval Amphibious School, San Diego
7. Naval Special Warfare Group, Pacific
8. Fleet Weather Facility, San Diego
9. Naval Electronics Laboratory Center, San Diego

B. NON-MILITARY

1. State of California, DECCA Navigation System

IV. REAL ESTATE

A. SUMMARY

	Acres
1. Owned Fee Simple	36,200
——a. Out-leased	0
2. In-leased	0
3. Permit/Easement	0
GRAND TOTAL	36,200

B. DISCUSSION

1. General. San Clemente Island is 21 miles long and averages two and one-half miles wide. The entire island (56.5 square miles) is owned by the Navy and has a virtually unlimited expanse of open sea to the west and south. The Federal Government owns all rights and title to tidal lands extending from the mean high water line seaward 300 yards beyond the mean lower low water line. The State of California owns the underlying land from this point outboard to the three-mile limit.

The terrain of the Island varies from steep cliffs on the east side to smooth terraces that descend to the west side beaches. Water depth on the east increases rapidly averaging 300 fathoms one mile from shore, and on the west it averages 50 fathoms one mile from shore. Composition of the ocean floor near the Island is mostly smooth, gray sand with occasional rocks. Maximum water depth reaches 600 fathoms in a channel paralleling the eastern shore about three miles offshore. The topography of SCI permits easy access to virtually any vantage point, so that instrumentation can be readily positioned. All these factors combine to provide optimum solutions to most requirements of RDT&E ranges.

2. Utilization. The majority of the Island's 36,200 acres receive little or no utilization. Approximately 140 acres support community facilities, quarters, shops, administration areas, etc., primarily at Wilson Cove. This area is utilized to 50 percent of capacity and contains sufficient space for additional construction.

Approximately 350 acres are devoted to ammunition storage and used to 20 percent of capacity. Ample room for expansion exists. Almost 18,200 acres are devoted to an ordnance bombardment range which was used extensively during World War II and is highly contaminated. Presently, Commander Training Command, Pacific Fleet (COMTRAPAC) units utilize the area for ship-to-shore bombardment. Portions of the range are used five days per week, 50 weeks per year, but usage is limited to small unit spotter training for one or two ships about one to three hours per day. Roughly 360 acres have been set aside for Underwater Demolition Team, Boat Support Unit, and Seal Team training on the north coast. The area contains no facilities and is used for demolition and reconnaissance training approximately 12 weeks per year. The Auxiliary Landing Field (ALF) comprises approximately 590 acres and receives limited use as a logistic support airstrip for base personnel. In the past the ALF was used extensively for aircraft carrier qualification training and, since transfer of the ALF to the control of NAS NORIS, training use is expected to increase. Within the 590 acres there is available space for considerable facility expansion to meet any known or projected requirement. The remaining 16,560 acres support miscellaneous navigational aids and instrumented ranges but are basically undeveloped and not utilized.

V. FACILITIES

A. GENERAL INFORMATION. San Clemente Island has 186 structures of which 42 percent are permanent, 41 percent semi-permanent, and 17 percent temporary. Approximately 77 percent have an economic life expectancy of less than 10 years. These figures do not accurately portray the condition of the support facilities due to the fact that the permanent and semi-permanent structures include a pier, power house, runway, standby generator buildings, sub-stations, water tanks, pump houses, magazines, camera shelters, radar towers, and other uninhabited structures/buildings, while the inhabited buildings are generally substandard except for two BEQ's, one BOQ, the headquarters building, and a transmitter building.

B. RUNWAY. 5/23 - 9,315 x 200 feet concrete surface. The runway has the capacity to accommodate any military or commercial aircraft presently in use. Although end zones do not meet criteria, approaches are over water and unobstructed. The Field has the equipment to provide IFR flight support, but no controlled airspace has been assigned. On 12 May 1971 the Commanding Officer, NAS NORIS, requested the Navy Regional Airspace Office, West Coast, to establish an approach control area to accommodate IFR arrivals/departures.

C. AIRCRAFT APRON. A requirement exists for 165,000 square yards of parking and maintenance apron. Assets total 1,059,761 square yards; however, 45,481 square yards are located at the site of the former airfield facilities, approximately 5.7 miles south of the ALF.

D. AIRCRAFT HANGARS. A requirement exists for 4,000 square feet of aircraft maintenance hangar space. Assets total 52,141 square feet of which 25,955 square feet are adequate.

E. PIERS/WHARVES. A requirement exists for 1,488 feet of general purpose fueling and supply pier/wharf berthing. Adequate assets total 628 feet.

F. RDT&E. Current RDT&E facility assets total 105,248 square feet of which 104,672 square feet are adequate. It should be noted that these totals include many specialized types of facilities such as POLARIS POP-UP structures, which cannot be put to other general R&D uses. Therefore, a deficiency of 97,038 square

feet of various RDT&E ordnance laboratories, telemetry RDT&E facilities, etc., exists even though a substantial portion of the existing R&D facilities are not presently utilized.

G. FAMILY HOUSING. Two inadequate family housing units exist on the Island but these have been converted to bachelor civilian quarters.

H. BACHELOR ENLISTED/CIVILIAN QUARTERS. As no families reside on the Island all personnel who work on SCI (not daily transients) require bachelor living accommodations. Based upon the current base population, requirements total 125 spaces. Assets total 1,380 spaces of which 332 spaces are adequate.

I. BACHELOR OFFICER/CIVILIAN QUARTERS. Calculated requirements total 192 spaces. Assets total 147 spaces of which 20 are adequate.

J. COMMUNITY SUPPORT. Morale, welfare, and recreational facilities are limited and the majority of those that exist are inadequate.

K. UTILITIES. Potable water and oil are barged by the Navy from Long Beach; electricity, telephone, and sewage disposal services are Navy-owned and operated.

VI. MILITARY CONSTRUCTION PROGRAM. Since FY 1965 six line items have been funded in the amount of $2.79 million.

PROGRAM YEAR	PROJECT	EST. COST (000)	FY TOTAL (000)
FY 1970-1971	None		
FY 1972	Sewage Treatment Improvement	$ 200	$ 200
FY 1973-1974	None		
FY 1975	Ship/Shore Fuel System	82	82
	Programmed Total		$ 282
UNPROGRAMMED	20 line items for personnel support facilities, utilities, roads, and a breakwater		28,330
	GRAND TOTAL		$28,612

VII. BASE LOADING

A. PRESENT

1. Officer Personnel

Permanent	2
Transients/Students	4
Tenants	10
Total	16

B. PRESENT/PROJECTED. Fiscal Year 1971 saw a significant decrease in activity as evidenced by a drop in overall base population from 452 in 1970 to 391, including transients. Permanent station personnel declined from 154 to 55 persons. On-going major test programs include the DSRV, CONDOR missile, MARK 46 torpedo air drops, and the Man-in-the-Sea Program. As only limited personnel support facilities are available on the Island, i.e. no family housing, etc., station personnel reside on the Island Monday through Friday and return to the mainland on weekends, if they desire, leaving only minimal security, fire, support personnel, etc., on duty. R&D project and tenant personnel sometimes commute each day on a chartered commercial airline that provides daily service to SCI.

Nine different military activities presently use San Clemente Island. Most users indicate that no alternate site is available in the eastern Pacific which offers the unique advantages of SCI. With few exceptions, all have expressed a requirement for future increased use; but none desire to assume management control of the Island under present funding conditions. This problem is discussed in detail in Section XI, Problem Evaluation.

X. CAPABILITIES/CAPACITIES

A. GENERAL. The San Clemente Island area has a mild climate with moderate temperatures, clear skies, and calm waters approximately 300 days of the year and, by virtue of its terrain, climate, and isolated location, has been developed into a unique R&D range facility and a support complex for fleet training requirements. Pacific Fleet training and other RDT&E activities on San Clemente Island have decreased in past years and the Island is presently underutilized. With no operational major claimant sponsoring funding support existing facilities are deteriorating. Waterfront operational facilities are limited and the lack of a potable water source has been considered a major obstacle to further development of the Island. Logistics also have been a major problem slowing full utilization.

B. EXPANSION POTENTIAL. The isolated location of SCI and the large land areas which are not utilized provide excellent sites for mainland activities, which are incompatible with concentrated urban development such as ammunition storage and handling, communications transmitters, and firefighting training. The Island would also be suitable for non-operational activities presently located at mainland installations occupying space more critically required for operational tasks.

C. EXCESSES. Numerous expensive R&D installations of a highly specialized nature have been constructed on the Island and are not presently in use. While they may be considered excess, no use can be made unless additional compatible R&D work is assigned. San Clemente Island's relatively isolated location provides maximum protection from encroachment but its significant underutilized areas, if not designated for future use by the DOD, will generate civilian pressure for release of the property. On 18 May 1971 the Los Angeles County Board of Supervisors urged Federal action to open SCI for public recreation use. Congressional representatives have since visited SCI, were briefed on its mission and use, and indicated by correspondence that, in their opinion, portions could be made available for joint military/civilian use.

XI. PROBLEM EVALUATION

A. PRESENT ENCROACHMENTS. None

B. FUTURE ENCROACHMENTS. None significant

C. OTHER PROBLEMS

1. Underutilization

a. Background/Discussion. Wholly owned by the United States, control of SCI was transferred from the Department of Commerce to the DOD in 1934. Management responsibility has changed hands frequently since then, based primarily on the "Dominant User" concept. During World War II, a small airfield (now abandoned), cantonment area, and several ammunition magazines were constructed. In the post-war period, SCI remained a site for fleet training. Activity increased significantly in 1951 with the establishment of an Air Force Radar Station with a base population of 200 men. Support facilities were expanded and the Air Force assumed responsibility for all island logistics. In 1961 a Naval Auxiliary Landing Field (ALF) with a reinforced concrete 9,315 foot runway was constructed at the north end of the Island which is the site of the personnel support and port facilities. A missile firing range was constructed along the east coast extending south from the port area. The Air Force departed the Island in 1961 and responsibility for island management was transferred to the Commanding Officer, Naval Ordnance Test Station, China Lake. Activity levels and command relationships remained virtually unchanged through 1967, when NAVUSEARANDCEN SDIEGO took over management of the island's facilities as the then dominant user and assumed the responsibility to provide facility, range, and personnel support for all tenant units as part of its R&D budget. A marked decrease in RDT&E activity occurred after 1967 when the POLARIS and POSEIDON tests were completed and as other RDT&E project funding declined. Because of these cut backs and the disproportionately high cost of maintaining SCI at its present level, NAVUSEARANDCEN SDIEGO announced plans in December 1969 to inactivate the ALF as of 1 January 1970 to all but commercial aircraft in direct support of NAVUSEARANDCEN operations. Commander Naval Air Force, U.S. Pacific Fleet (COMNAVAIRPAC) objected to the proposed inactivation and recommended the ALF be reassigned to NAS North Island, which was effected 1 January 1971. The airfield currently operates Monday through Friday from 0700 to 1700 hours. In the past, the runway has been used for night aircraft field carrier landing practice. The existence of the runway as an emergency airstrip has, in itself, more than paid for the initial cost of all SCI facilities. From June 1963 through September 1970, documented saves of 22 aircraft valued at $17,560,000, which otherwise would have been lost, landed at SCI. During the same period an additional 38 aircraft valued at $52 million are classed as "probable saves" due to the airstrip's existence.

Logistic support and limited operational facilities have been major problems slowing full utilization of SCI. The one pier has 420 feet of berthing space with only a light mobile crane for use in unloading materials. All material must be barged to SCI or flown in. A Long Beach commercial airline services SCI with two round-trip flights Monday and Friday, and one round trip other week days, flying in passengers and cargo. The current estimated annual cost of this air service is $190,000. A second commercial airline provides services from San Diego as required for $140 per round trip and averages four to six flights per week. A logistic barge normally makes a weekly trip to SCI from Long Beach at an annual cost of $112,000.

Development of a potable water supply from wells on the island is an historic problem. One well was dug to a depth of 1,100 feet with negative results. Potable water is barged to the Island from Long Beach at an annual cost of $203,800. Salt water, in a separate system, is used for fire protection, but is being phased out. The Island's average rainfall is 14.4 inches, which could fulfill minimal requirements. A reservoir catch basin exists but has not been maintained

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and is unusable. Sewage disposal is by means of septic tanks. Electrical power is furnished by a 3,110 KVA generating plant in the Wilson Cove cantonment area. Construction of submitted MCON projects for enlisted quarters, a sewage treatment plant facility, power plant addition, and other support facilities totalling almost $2[illegible] million, would correct major facility deficiencies except for a potable water supply. However, if serious consideration was given to fully exploiting SCI's capabilities, the water problem would not be insurmountable. A small nuclear reactor to generate power and desalt water would appear to be an ideal combination. As an interim measure, MUSE power units and water producing barges could be utilized.

Without attempting a play on words, all commands associated with SCI want to use it, but none want it. All desire use as a tenant, but none want to be saddled with the financial burden to maintain the island's facilities, to arrange and provide the necessary logistic support, and to be responsible for sponsoring and supporting MCON projects. While all users indicate an increasing requirement for SCI, current use of the island's R&D ranges is about 20 percent of capacity and deterioration of the island's valuable facility assets continues. Relatively large land areas are not utilized. These would provide excellent sites for activities which are incompatible with concentrated urban areas such as ammunition storage and handling, communications transmitters, and firefighting training. SCI would also be suitable for non-operational activities which occupy space at mainland installations more critically required for operational tasks, such as the Naval Station, San Diego, Inactive Ship Maintenance Facility "Mothball Fleet."

The tremendous potential of SCI due to its isolation is an extremely valuable asset to the DOD but continued underutilization will cause increased pressure to release all or portions for civilian use. An example of the civilian interest in the Island was expressed on 18 May 1971 when the Los Angeles County Board of Supervisors unanimously adopted a motion to approach the DOD and the General Services Administration urging Federal action to open SCI for public recreation. Congressional representatives have since visited the Island, been briefed on its mission and use, and have indicated that portions of SCI should be made available for joint military/civilian use.

b. Conclusions

(1) San Clemente Island, because of its strategic location removed from populated areas but in close proximity to Pacific Fleet units, offers distinct advantages for Pacific Fleet training operations and RDT&E operations requiring an isolated ocean-oriented environment.

(2) There is no alternate location in Southern California that can fulfill the environmental constraints of the R&D test programs conducted at SCI.

(3) As encroachment of bases/facilities ashore continues to occur, SCI will become increasingly more valuable as a site for various operations incompatible with expanding urbanization.

(4) Submitted MCON projects if approved and funded would provide adequate facilities to meet requirements for all present programs.

(5) Utilization of the airfield and other facilities can be greatly increased with a minimum of additional cost.

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(6) Sufficient real estate exists to develop the Island into a major ordnance storage complex, communications transmitter station, fleet fire-fighting school, and "mothball" ship anchorage.

(7) Deterioration of facilities will continue until the Island is developed into an operating entity, such as a Naval Station, with an operational major claimant as a funding sponsor.

c. Recommendations

(1) That the DOD retain SCI and continue to utilize the island's facilities as a Pacific Fleet training and RDT&E complex.

(2) That the DOD take action to fully develop San Clemente Island with sufficient activities to establish it as a permanent installation under a major claimant as opposed to its current transitory nature.

(3) That SCI be developed specifically as a relocation site for the Naval Communication Station, Chollas Heights Transmitter Facility; Naval Weapons Station, Seal Beach; Naval Station Fleet Firefighting Facility; and the Naval Station, San Diego, Inactive Ship Maintenance Facility "Mothball Fleet." Discussion of the problems associated with each of these activities is presented in the respective installation sections.

D. REAL ESTATE APPRAISAL. None undertaken.

E. PUBLIC OPINION SURVEY. None undertaken.

XII. DISCUSSION AND ANALYSIS

A. PRESENT STATUS. San Clemente Island is a vital installation which is used by the Navy to support Pacific Fleet training and RDT&E of weapons systems. Because of its isolated location and relative freedom from encroachment, SCI offers distinct advantages for various activities which are affected by, or cause encroachment. Management responsibility has changed hands frequently in the island's long history based primarily on the "Dominant User" concept. SCI is currently under the mangement of NAVUSEARANDCEN SDIEGO except for the ALF which has been transferred to the control of NAS North Island. Some nine different military commands are presently users of the Island. A considerable potential exists for increased utilization. Nevertheless, the existing facilities on SCI are underutilized and as a consequence are deteriorating from lack of constant maintenance and use. SCI is a unique and extremely valuable asset to the DOD and could eventually be lost if continued to be underutilized.

B. TENURE. San Clemente Island's tenure is viable through 1980 and well beyond if the DOD can fully justify its retention. If not, SCI could very easily be lost to civilian use.

C. CONCLUSIONS

1. San Clemente Island, because of its strategic location removed from populated areas but in close proximity to Pacific Fleet units, offers distinct advantages for Pacific Fleet training operations and RDT&E operations requiring an isolated ocean-oriented environment.

2. As encroachment of shore bases/facilities continues to occur, the Island will become increasingly more valuable as a site for various operations incompatible with expanding urbanization.

3. The existence of the Auxiliary Landing Field has saved the DOD approximately $18 million in aircraft saved.

4. Submitted MCON projects will provide adequate facilities to meet requirements for all present programs.

5. Utilization of the airfield and other facilities can be greatly increased with a minimum of additional cost.

6. Sufficient real estate exists to develop the Island into a major ordnance storage complex, communications transmitter station, fleet firefighting school, and "mothball" ship anchorage.

7. Deterioration of facilities will continue until the Island is developed into an operating entity, such as a Naval Station, with an operational major claimant as a funding sponsor.

XIII. RECOMMENDATIONS

A. That the DOD retain San Clemente Island and continue to utilize the island's facilities as a Pacific Fleet training and RDT&E complex.

B. That the DOD take action to fully develop San Clemente Island with sufficient activities to establish it as a permanent installation under a major claimant for appropriate planning and funding responsibility.

C. That, in view of the expansion potential of SCI, its inherent advantages, and problems associated with several mainland installations making relocation operationally desirable or mandatory within the next 10 to 15 years, the DOD develop SCI as a relocation site for the Naval Communication Station (T), Chollas Heights; Naval Weapons Station, Seal Beach; Naval Station Fleet Firefighting Facility; and the Naval Station, San Diego, Inactive Ship Maintenance Facility "Mothball Fleet."

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1.3 Command Structure

1.3.1 San Clemente Island Test/Training and Firing Areas (SCITA/SCIFA) -

Controlling Authority: CO FACSFAC, SDIEGO
Scheduling Authority: FACSFAC, SDIEGO
Resource Managers:
Real Estate and Buildings: NUC, San Clemente Island
Manpower and Equipment: VC-3
Funding Support: NAVAIR

1.3.2 Sub-Areas, Items 1.1.2.2 through 1.1.2.9 and 1.1.3 (see above)

Controlling Authority: CO FACSFAC, SDIEGO
Scheduling Authority: FACSFAC, SDIEGO
Resource Manager: Not applicable. Open ocean areas;
Funding Support: non-instrumented and unmanned.

1.3.3 Shore Bombardment Area (SHOBA) and Camp Pendleton Amphibious Assault Area (CPAAA)

Controlling Authority: COMNAVSURPAC
Scheduling Authority: COMNAVSURPAC
Resource Manager: COMNAVSURPAC
Funding Support: COMNAVSURPAC

1.3.4 Camp Pendleton Amphibious Training Area (CPAVA)

Controlling Authroity: CG, MCB Camp Pendleton
Scheduling Authority: CG, MCB Camp Pendleton
Resource Manager:
Funding Support: Beaches maintained by CG, MCB Camp Pendleton

1.3.5 Coronado Islands Submarine Training Area (CISTA)

Controlling Authority: CO FACSFAC, SDIEGO
Scheduling Authority: COMSUBTRAGRU WEST COAST
Resource Manager: Not applicable. Non-instrumented
Funding Support: and unmanned.

1.4 Local Organization - See Figure 8B-3 for VC-3 organizational support of drone operations on San Clemente Island (SCITA/SCIFA). None of the balance of the ranges in SOCALFLTOPAREA have local organizations involved in target and instrumentation maintenance and/or control.

1.5 Major Users - Essentially 100-percent Pacific Fleet; occasionally Marines and USAF.

1.6 Background and History - Drone capability installed at SCITA/SCIFA (San Clemente Island) in 1966. Need additional information on the balance of the ranges.

1.7 Range Instrumentation/Control Equipment

1.7.1 SCITA/SCIFA (San Clemente Island)

AN/MSQ-51 Aerial Target Control System
AN/MPS-11A Ground Radar Set
AN/M-33C Drone Control System
657 Vega Portable Radar Tracking Set

1.7.2 Other Operating Areas - No instrumentation.

1.8 Personnel Manning - See Paragraph 4.1.5 for SCITA/SCIFA; no other areas manned.

1.9 Planning

Near Term - Complete conversion of power supplies in MSQ-51 and MPS-11A vans and replace friction drive for MSQ-51 with gear drive. No plans for balance of operating areas.

Five Year - No long-term plans.

2.0 W-291 RANGE/TARGET AREAS*

2.1 San Clemente Island Test/Training and Firing Areas (SCITA/SCIFA; W-291)

2.1.1 Location/Access - North portion of San Clemente Island and offshore areas west and northwest of island (see Figure 8B-1). Check with CV-3, North Island, for chartered flights from San Diego or Long Beach.

2.1.2 Type Exercise and Ordnance - SCIFA area only: long-range weapon firing (including RAP), drone operations (air and sea), ISE, fleet training, weapons test fire, short-range missile operations. Air-to-air exercises, permissible but infrequent. No air exercises in SCITA except for drone control and recovery.

*2.1.3 Range Usage - Approximately 48 weeks per year. Available 0600-1900 weekdays.

2.1.4 Range Condition - Good.

*Basic Warning Area W-291 available 0001-2400 daily with usage of 67,490 hours per year in entire sector.

2.1.5 Personnel (Excluding Launch Crew)

Authorized: Current T.O. for operating and maintenance personnel being reviewed (reporting to Detaching OIC, LTJG, or Ensign):

Radar Crew Leader	FTC	(1)
Supervisor	OS-1	(1)
Radio Maintenance Man	ETN-3	(1)
Search Radar Maintenance Man	FTR-3	(1)
Search Radar Maintenance Man	ETR-2	(1)
Fire Control Maintenance Man	FTG-2	(1)
Site Electrician	EM-2	(1)
Fire Control Maintenance Man	FTG-3	(1)
Power Plants Maintenance Man	EN-2	(1)
Vega/NDI Maintenance Man	ET-3	(1)
TOTAL		(10)

On Hand: Currently 10 R&M and 10 in launch crew when operating. (No contractor personnel; civil service only on call from NAS or China Lake.)

Required: See pending authorized list above.
Training: On-the-job training and by a civil service technician permanently assigned to VC-3 at NAS, North Island.

2.1.6 Communications - UHF transcievers.

2.1.7 Power - 60 Hz, 3-phase, generated at NUC power plant on island; 400 Hz motor generator set in van. Diesel generator for standby.

2.1.8 Layout/Facilities - See Figures 8B-4 and 8B-5.

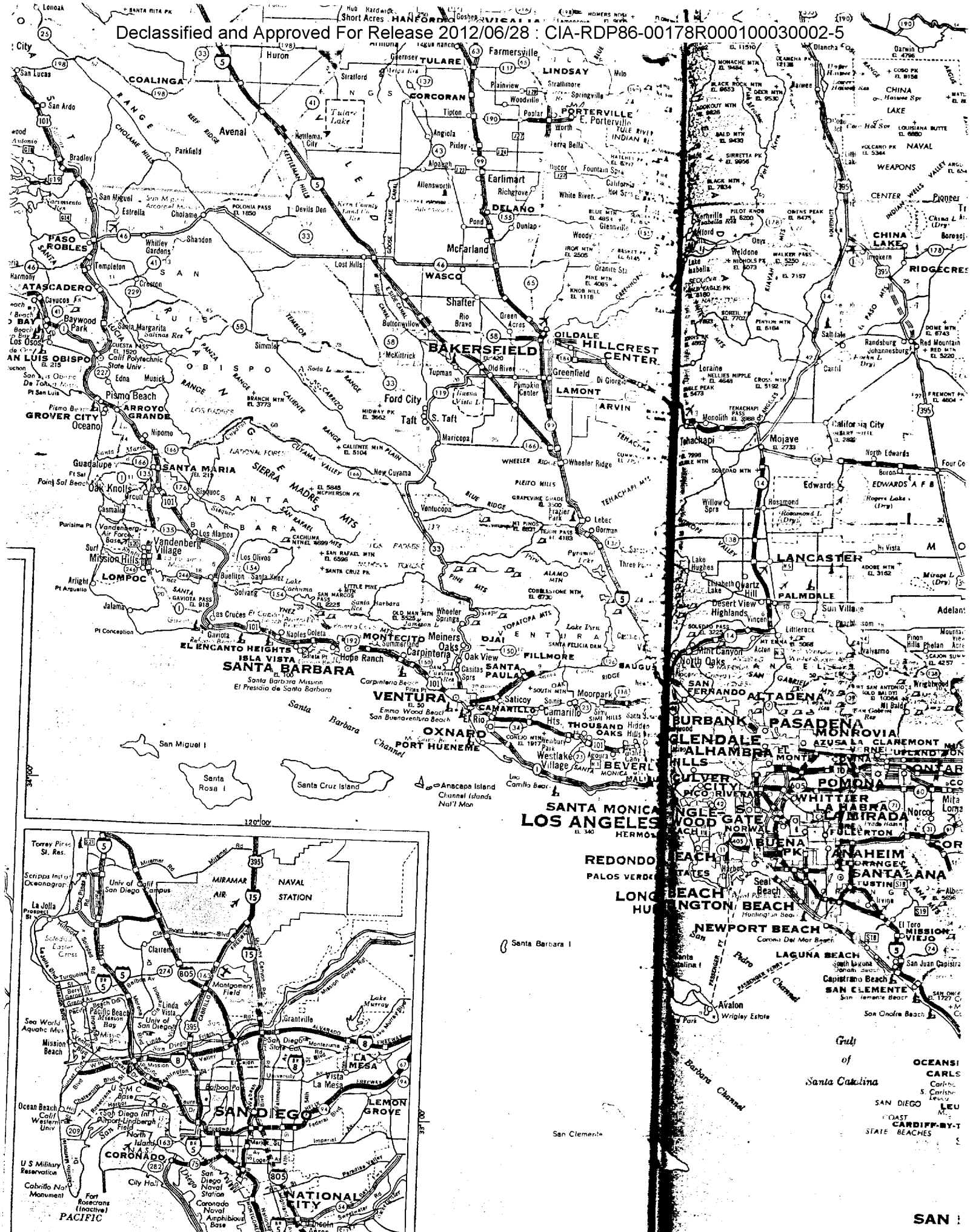
2.1.8.1 Targets

2.1.8.1.1 Drones - MQM-74A, BQM-34A, BQM-34E. (BQM exercises very infrequent.)

2.1.8.1.2 SEPTAR - Very infrequent exercises. Personnel and equipment supplied by Destroyer Group, 32nd Street, San Diego, Site radars used as required.

2.1.8.2 Spotting System - Not applicable

2.1.8.3 Ancillary Facilities - Building 60311 (see Figure 8B-4); 2 vans for maintenance and spare parts storage with work benches; Building 60244 (see Figure 8B-5), concrete block construction, used for administration area and storage of specialized test equipment; other miscellaneous storage vans, salvaged and not on inventory.


HANFORD
VISALIA
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Earlimart
DELANO
McFarland
WASCO
Shafter
BAKERSFIELD
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HILLCREST CENTER
LAMONT
ARVIN
Ford City
Taft
S. Taft
Maricopa
Wheeler Ridge
Tehachapi
Mojave
California City
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EDWARDS A F B
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PALMDALE
Lake Hughes
Elizabeth Quartz Hill
Desert View Highlands
Littlerock
Willow Spgs
Rosamond
Monolith
Loraine
Randsburg
Johannesburg
Red Mountain
CHINA LAKE
RIDGECREST
Inyokern
Weldon
Isabella
Kernville
Onyx
Saltdale
Cantil
Boron
North Edwards
Four Co
Lebec
Gorman
Frazier Park
Ventucopa
Simmler
McKittrick
Buttonwillow
Greenfield
Di Giorgio
Pumpkin Center
Old River
Green Acres
Rio Bravo
Lost Hills
Wasco
Shafter
Delano
Earlimart
Richgrove
Alpaugh
Pixley
Tipton
Poplar
Porterville
E. Porterville
Terra Bella
Strathmore
Springville
Plainview
Woodville
Lindsay
Farmersville
Exeter
Orosi
Visalia
Goshen
Hanford
Armona
Hardwick
Kettleman City
Stratford
Guernsey
Tulare
Laguna Ranch
Short Acres
Homers Nose
El Grade
Dinuba
Sanger
Reedley
Parlier
Selma
Kingsburg
Fresno
Clovis
Madera
Chowchilla
Merced
Atwater
Livingston
Turlock
Modesto
Ceres
Riverbank
Oakdale
Escalon
Manteca
Ripon
Lathrop
Tracy
Stockton
Lodi
Galt
Elk Grove
Sacramento
Folsom
Auburn
Roseville
Rocklin
Lincoln
Marysville
Yuba City
Oroville
Chico
Paradise
Gridley
Biggs
Willows
Orland
Corning
Red Bluff
Tehama
Los Banos
Gustine
Newman
Patterson
Crows Landing
Hughson
Waterford
Oakdale
Riverbank
Modesto
Ceres
Turlock
Denair
Keyes
Empire
Salida
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Crows Landing
Gustine
Los Banos
Dos Palos
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Coalinga
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Greenfield
Di Giorgio
Pumpkin Center
Old River
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Ford City
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Maricopa
Wheeler Ridge
Tehachapi
Mojave
California City
Edwards
Lancaster
Palmdale
Lake Hughes
Elizabeth Quartz Hill
Desert View Highlands
Littlerock
Willow Spgs
Rosamond
Monolith
Loraine
Randsburg
Johannesburg
Red Mountain
China Lake
Ridgecrest